

I claim:

1 1. A method for cross-coupling an aryldiazonium salt and an arylsilane,
2 comprising:

3
4 (a) mixing the aryldiazonium salt and the arylsilane in the presence of a catalyst
5 comprising palladium; wherein the aryldiazonium salt comprises $\text{ArN}_2^+ \text{X}^-$, wherein
6 X^- is a monovalent anion; wherein Ar is aryl; and wherein the aryl silane comprises
7 $\text{Ar}'\text{-Si(L)}_3$; wherein Ar' is aryl; Ar' and Ar may be the same or different; L is selected
8 from the group consisting of $-\text{CH}_3$, $-\text{OCH}_3$, $-\text{F}$, $-\text{Cl}$, R, and $-\text{OR}$; wherein R denotes
9 a C_2 to C_5 alkyl group; and wherein the three L substituents may be the same or
10 different; and

11
12 (b) reacting the aryldiazonium salt and the arylsilane for a time and at a temperature
13 sufficient to allow formation of the cross-coupled product $\text{Ar-Ar}'$.

1 2. A method as recited in Claim 1, wherein said reacting occurs in a solvent
2 comprising water, methanol, or ethanol.

1 3. A method as recited in Claim 1, wherein the catalyst comprises palladium (II).

1 4. A method as recited in Claim 1, wherein the catalyst comprises palladium (II)
2 chloride.

1 5. A method as recited in Claim 1, wherein the catalyst consists essentially of
2 palladium (II) chloride.

1 6. A method as recited in Claim 1, additionally comprising the step of recovering
the cross-coupled product $\text{Ar-Ar}'$ from the reaction mixture.

1 7. A method as recited in Claim 1, wherein X is selected from the group
2 consisting of BF_4 , Cl, F, SO_3CH_3 , CO_2CH_3 , PF_6 , CO_2CH_3 , and ClO_4 .

1 8. A method as recited in Claim 1, wherein the reaction mixture is essentially
2 free of fluoride.

1 9. A method as recited in Claim 1, wherein X is BF_4 , and wherein the reaction
2 mixture is essentially free of fluoride from any source other than the BF_4^- anion.